PMA 3 SHELL HEATER FAILURE

Advisory:
PMA3 Htr[X]B(A) Faild

User Notification

PCS NODE 1:
TCS: PMA3
PMA3: TCS
sel PMA3 Htr[X]B(A) Health Stat - Faild

PCS NODE 1:
TCS: PMA3
PMA3: TCS
Attention symbol appears next to PMA3 Htr[X]B(A)

Nominal Config:
nav NODE 1: TCS: PMA3
PMA3: TCS
PMA3 Htr[X]B Availbty - Inh

PMA3 Htr[X]A Availbty - Inh

RPCM N1RS2B RPC 1, 2, 3, 4, 5, 12, 13, 14, 15 Close Command- Ena

Nominal Assy Config:

During Pre-Ingress Warm-up:
PMA3 Htr[X]B Availbty - Ena Opr

PMA3 Htr[X]A Availbty - Inh

During Pre-Ingress Warm-up:
PMA3 Htr[X]B Availbty - Ena Opr

PMA3 Htr[X]A Availbty - Ena BU

RPCM N1RS2B RPC Close Command - Ena is same for all time frames.

(1)

1 Check Heater Failure Flags.

PCS NODE 1: TCS: PMA3
PMA3: TCS
- sel PMA3 Htr[X]B(A)
- Determine condition via failure flags:

Availbty - Inh and Cmd Stat - On	74
Hi Lim Violatn - True	5
Lo Lim Violatn - True	55
Temp Snsr Stat - Faild	2
RPC Position - Op and Cmd Stat - On	42
RPC Position - Op and Cmd Stat - On	17
RPC Position - Cl and Availbty - Inh	11
RPC - Trip	51

2 All B(A) Temp Sensors failed?
- No → 79
- Yes → 3

3 Possible loss of MDM Card N1-2 A02 or failure of P601/J601 EVA connector cable.

4
- Perform MDM IO CARD FAILURE, all (SODF: C&DH), then
- √**MCC-H** concerning heater reconfiguration.

1

5 Temp > Temp Snsr Failure Upper Limit?
- No → 6 Transient failure. → 7
- Yes →

7
- Continue nominal operations.

8
- sel PMA3 Htr Availability
- sel Htr[X]B(A) Htr Power

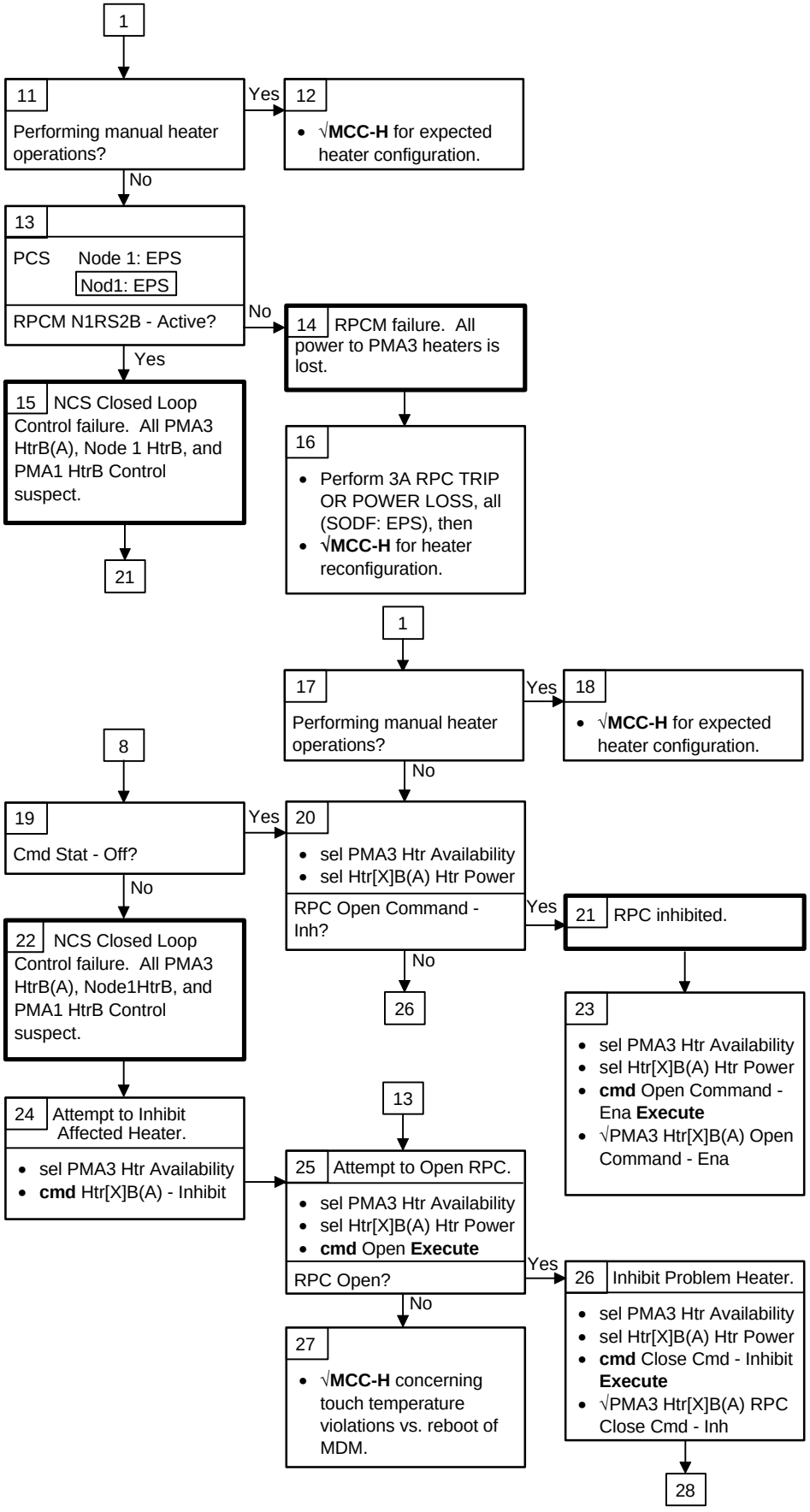
RPC Position - Op?
- Yes → (2) 9 Possible transient hot thermal environment.
- No → 19

10
- √**MCC-H** for further action.

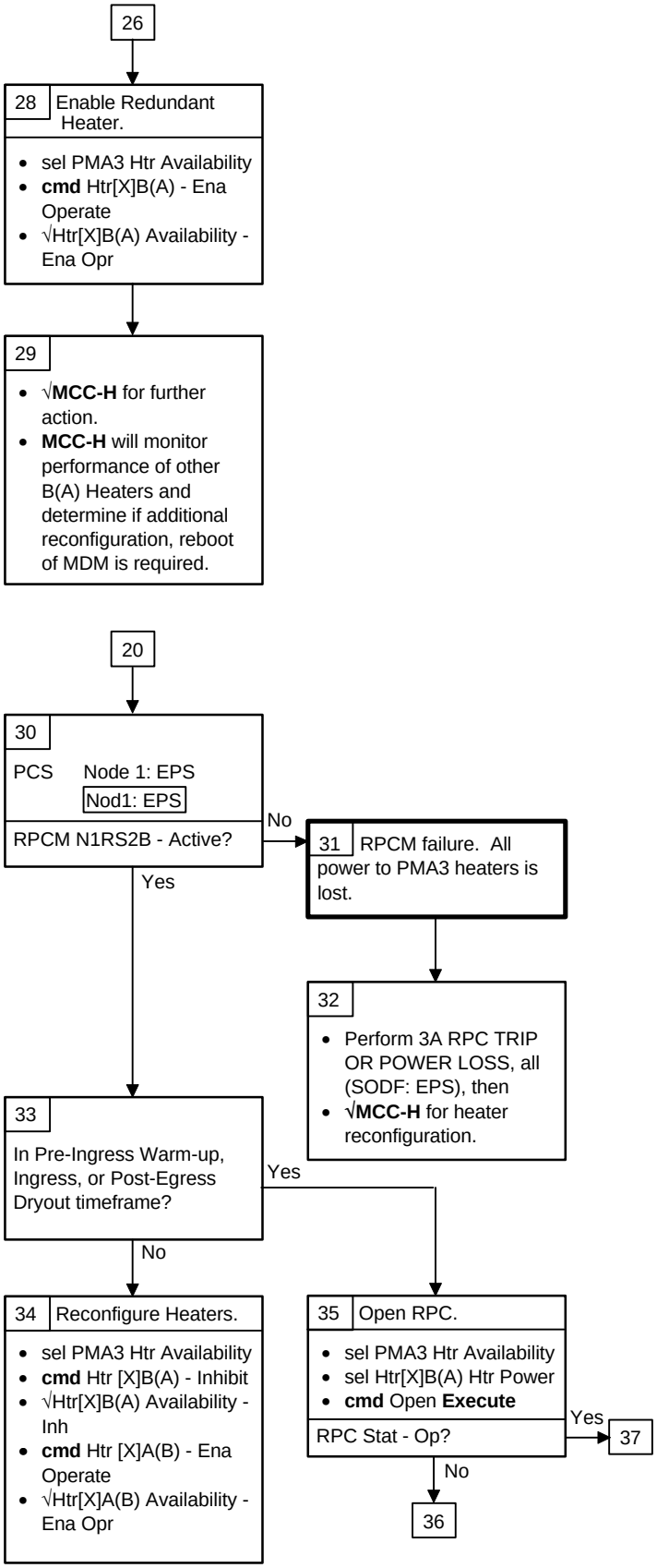
(1) The PMA3 Htr A,B designation is for physical redundancy only. Both the A and the B heater strings are controlled by the N1-2 MDM and powered by the N1-RS2 RPCM.

(2) Failure Upper Limit band may be set too small. **MCC-H** may uplink a change to Failure Upper Limit.

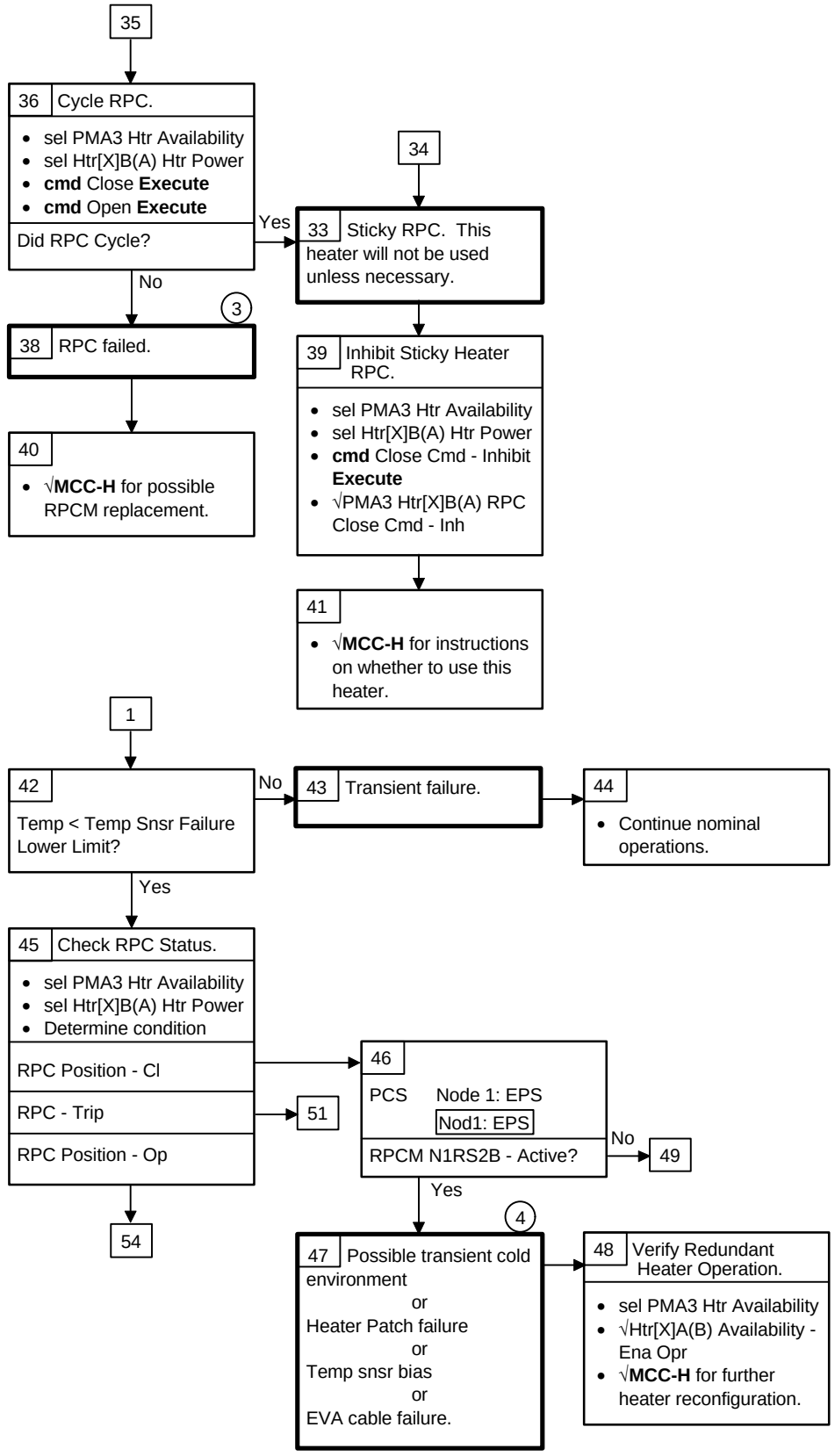
PMA 3 SHELL HEATER FAILURE (Cont)



PMA 3 SHELL HEATER FAILURE (Cont)



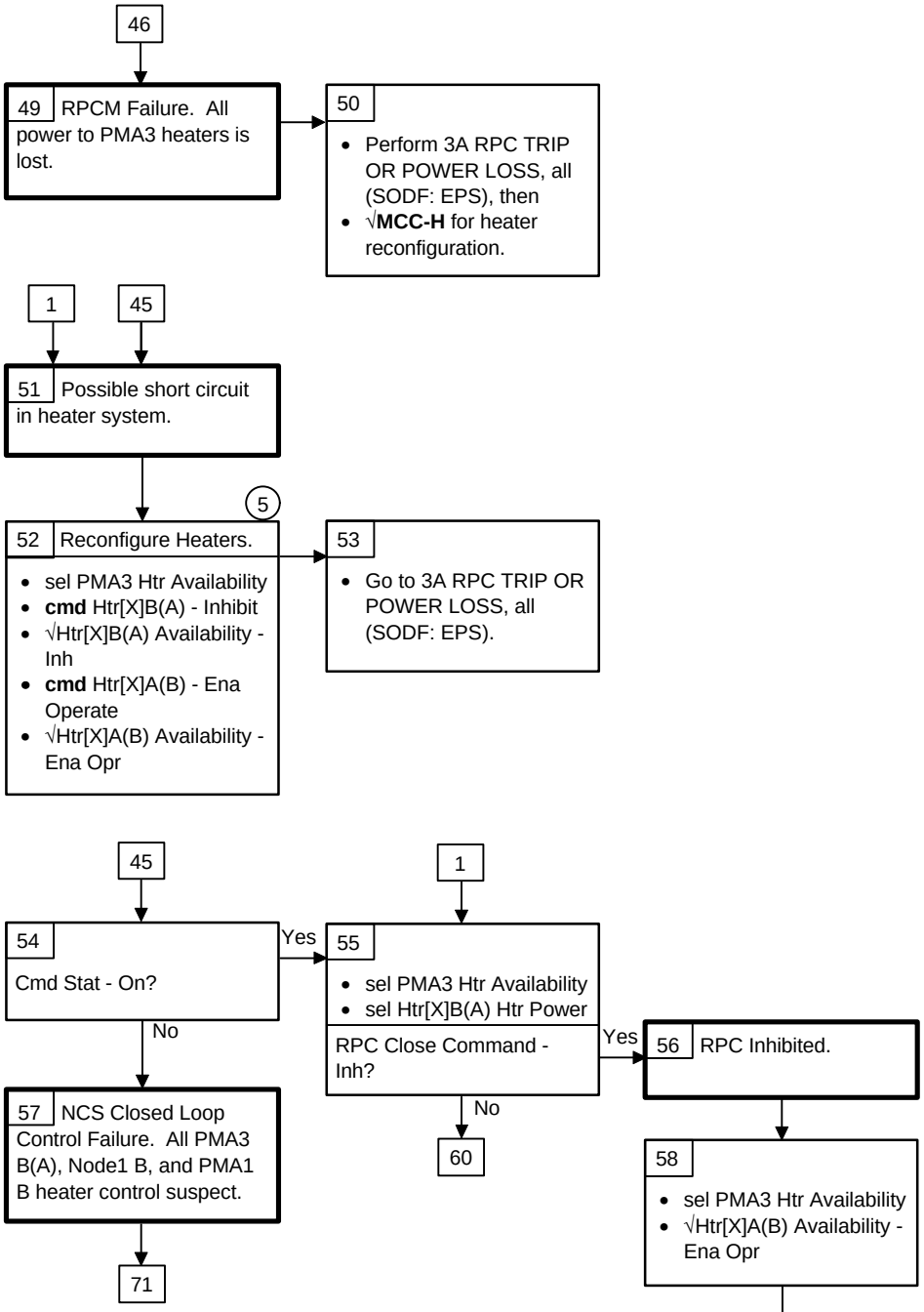
PMA 3 SHELL HEATER FAILURE (Cont)



(3) **MCC-H** will evaluate the possibility of touch temperature violations and consequences of leaving the heater on.

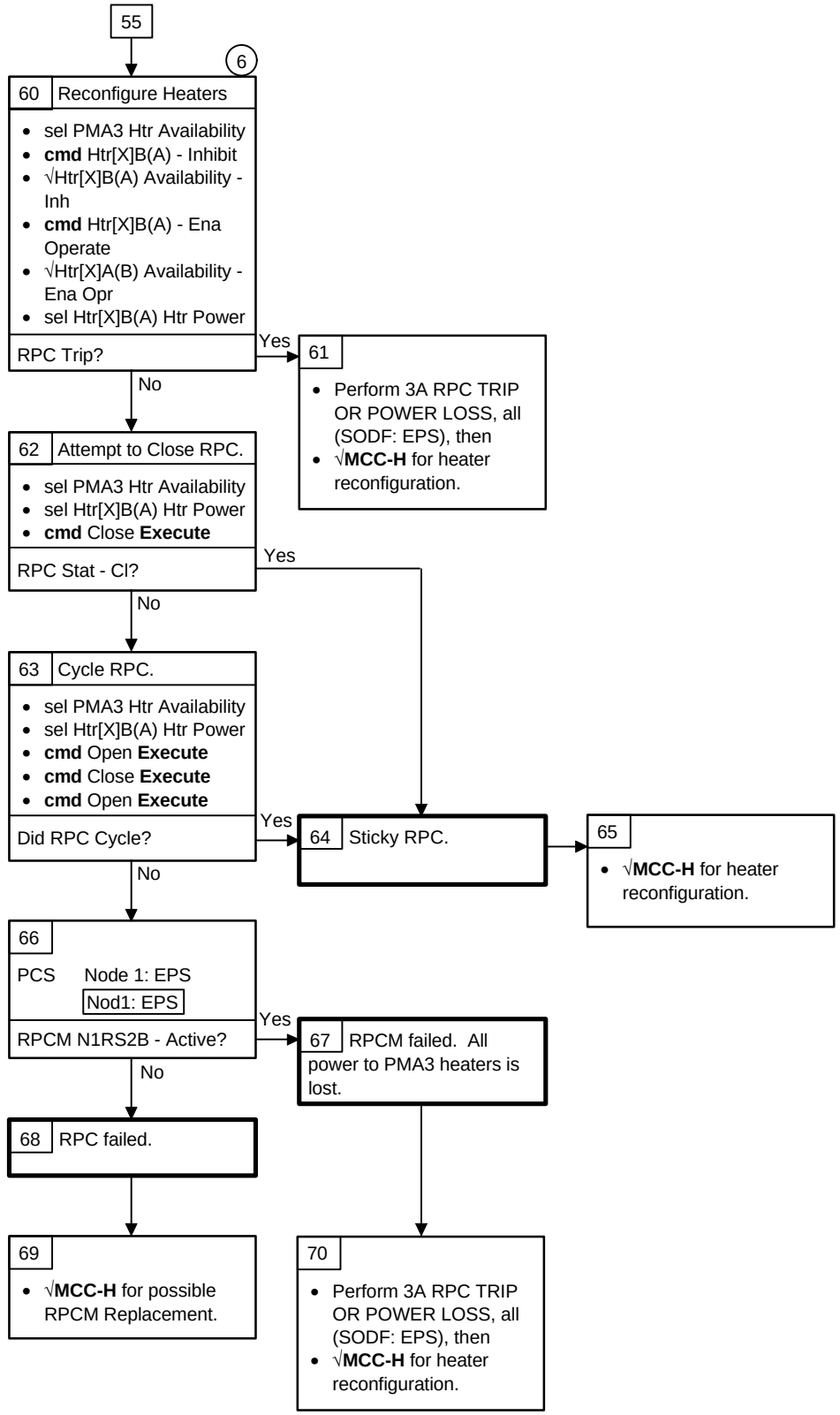
(4) A transient cold environment could require both B and A heaters to keep temperatures within limits. A heater pad debonding failure could also be the culprit in this case. If all B(A) temperatures do not appear to be rising properly, the failure could be in the EVA cable/connectors P602/J602.

PMA 3 SHELL HEATER FAILURE (Cont)



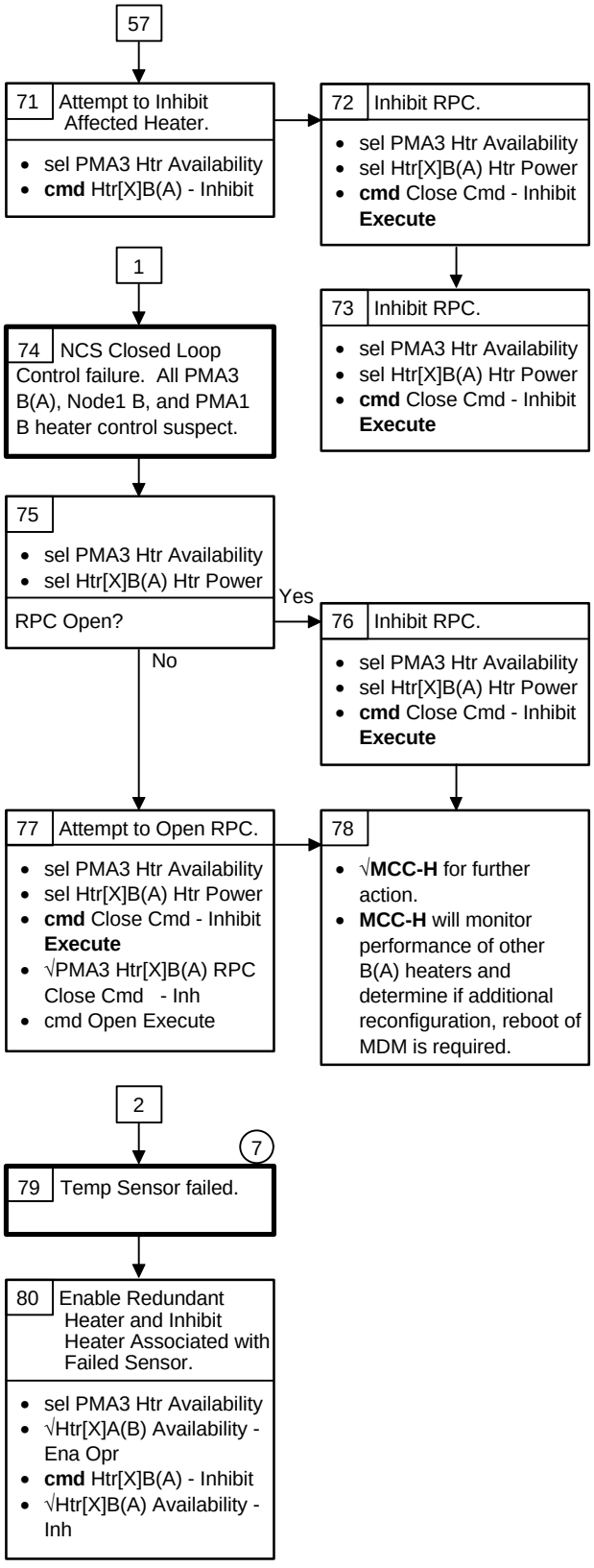
(5) Since the RPC tripped, it will not be used again unless necessary.

PMA 3 SHELL HEATER FAILURE (Cont)



(6) Since the shell is in a cold condition, the back-up heater should be enabled.

PMA 3 SHELL HEATER FAILURE (Cont)



(7) Temperature sensor has failed its range check. Temperature is either higher than + 400°C or lower than - 350°C. Software will command the heater off (default state).